

## PATENT ABSTRACTS OF JAPAN

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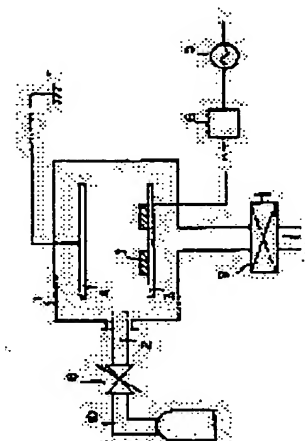
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## (54) DRY ETCHING METHOD OF ALXGA1-XN

## (57)Abstract:

PURPOSE: To perform etching readily at a high speed without deteriorating the surface of a crystal, by introducing CF<sub>4</sub> gas as a gas, and etching an Al<sub>x</sub>Ga<sub>1-x</sub>N wafer mounted on one electrode with plasma that is generated by the application of high frequency power.

CONSTITUTION: Two electrodes 3 and 4 which are arranged in a facing pattern are insulated from a vacuum container with an insulator such as Teflon. High frequency power is applied to the electrode 3 on which an Al<sub>x</sub>Ga<sub>1-x</sub>N wafer is mounted from a high frequency power source 5 through a matching device 6. The other electrode 4 is grounded. After remaining gas is sufficiently exhausted with an exhausting means, CF<sub>4</sub> gas is introduced. The pressure of etching gas is adjusted with a conductance valve 9. When the high frequency power is applied to the electrode 3, glow discharge is generated, and etching is started. Especially, when the electrode of a blue light emitting diode which is obtained by laminating AlN and GaN on sapphire is provided on the same side, i.e., the surface side, etching characterized by excellent reproducibility and controllability can be performed.



## LEGAL STATUS

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